***VR Gaming Market Analysis For Varlabs***

***Date: Oct 19,2023***

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***Two men wearing virtual reality goggles

Description automatically generated***

[This Photo](https://generacionxbox.com/valve-index-realidad-virtual-oficla-packs/) by Unknown Author is licensed under [CC BY](https://creativecommons.org/licenses/by/3.0/)

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**executive summary:**

The VR gaming market is one of the most prominent and growing sectors of the VR market. The market analysis will dive down into the gaming market. Highlighting the overall market size and growth, market trends, key players, headsets, the future, etc.

**Key findings:**

**Market Size and Growth:** The VR gaming market in 2022 was valued at USD $27.25 billion (Expert Market Reasearch , n.d.). The market will keep growing; by 2028, it will reach around USD 130.05 billion 2028 (Expert Market Reasearch , n.d.). Thanks to the rapid popularity of the VR gaming genre, more gaming consoles supporting VR, like the Sony PlayStation 5, and more VR headsets are flooding the market. And companies like Sony, Meta and others invest heavily in the sector, which is one of many factors that helped grow the market.

**Market Trends:** The current trend is to improve the hardware of the headset and, at the same time, reduce the price and make it more accessible.

The future trend is making stronger effort in accommodating people who have disability with lighter and more comfortable headsets and more accessible software for people with disabilities (Full Scale, 2023).

Microsoft's SeeingVR, a project from Microsoft Research that aims to make VR more accessible to people with low vision or blindness (Full Scale, 2023). Another future direction is to integrate AI and machine learning in games as well as development of brain-computer interfaces (BCIs), which allow users to control VR experiences with their thoughts, eliminating the need for a controller (Full Scale, 2023).

**Key Players:** Highlighted the top ten gaming development companies in 2023 that have a plethora of experiences and success in creating and developing titles that pushed the industry forward and influenced the market, like Valve with Half-life Alyx, Oculus studio with Jurassic World aftermath and many more.

**Headsets:** The Meta/Oculus Quest 2 is one the most accessible headsets to start your VR journey because it does not require the user to own pc or a console, just an app on your phone. Includes everything you need out of the box and affordable. Valve index, Sony PSVR2, and HP Reverb G2 are great options, each with their own pros and cons.

**The Future:** The future looks promising, focusing on making the headset more affordable over time and accessible. The constant evolution of the hardware and immersive titles will be the main driving force in growing the sector.

In summary, the VR gaming market is on an upward trajectory, characterized by innovation, user demand, and the significant influence of key players and platforms. As technology advances and accessibility improves, VR gaming promises an exciting future with immersive experiences and boundless possibilities for gamers.

**INTRODUCTION:**

Virtual reality, or VR, is one of the most popular and innovative technologies in the last decade. VR can be applied to multiple applications such as architecture and urban design, industrial design, etc. The most popular and well-known application is video games, has risen to the forefront, being one of the most recognizable applications to utilize VR technology significantly. We will be diving into the video game segment,

* Market Overview of the consumer side of the VR and more closely to the gaming sector but mention other sectors like education
* Market Sizes and growth
* Top VR headset
* Top VR Development Companies
* The most popular titles
* Best selling VR titles
* Market Trends and so much more

This analysis will help us understand the VR video game market; I will read articles and watch VR gaming videos to help me understand the VR gaming landscape and use it to help me create the best market analysis.



[This Photo](https://foto.wuestenigel.com/oculus-rift-vr-brille-messestand-gaming-in-virtual-reality/) by Unknown Author is licensed under [CC BY](https://creativecommons.org/licenses/by/3.0/)

**Market Overview:**

**Global Virtual Reality Market Share, By Industry, 2022
**VR gaming is experiencing a tremendous growth within the VR market space. In 2020 alone, the global VR market was valued between $17.25 (Phil, 2023) and $19.44 billion U.S. dollars. Sources suggest that the market will set to continue its expansion with the expectation to reach approximately $25.11 billion (Virtual Reality [VR] Market Size, Growth, Share: Report, 2030, 2023). The primary sector that's been growing in the VR industry is the gaming and entertainment sector. The gaming and entertainment sector holds a 24.6% market share in the U.S. Virtual Reality Market segment in 2022 (Virtual Reality [VR] Market Size, Growth, Share: Report, 2030, 2023). Big companies like Sony, Microsoft, Meta/Oculus, Valve significantly invested in their research and development division in their VR/AR department (Rees, 2023).

(Virtual Reality [VR] Market Size, Growth, Share: Report, 2030, 2023) (Pie Chart)

**Market Size and Growth:**

The VR gaming market size in 2023 alone, attained a value of USD $27.25 billion (Expert Market Reasearch , n.d.). According to the EMR website, it is estimated that the market will witness healthy growth in the forecast period of 2023-2028 to reach around USD $130.05 billion by 2028 (Expert Market Reasearch , n.d.).

There are a couple of factors why the market has grown because of the rapid popularity of the VR gaming genre, more gaming consoles supporting VR like Sony PlayStation 5, and more and more VR headsets flooding the market. I will touch more on that point later in the report. Big companies like Sony, Microsoft, Meta/Oculus, Valve significantly invested in their research and development division in their VR/AR department. Sony announces to invest $2 billion into extended reality research by the end of March 2024 (Rees, 2023).

**Key Players:**

Let me introduce you to the top ten gaming development companies in 2023, these key players have plenty of experiences and success on creating and developing titles that pushed the industry forward and influence the market. That’s why I selected the 10 studios.

1. Valve Corporation: Valve is one of the well-known developer and publisher in the gaming industry. Famous for the Half-Life, Portal, Left 4 dead, Team-Fortress 2 franchises that have made a huge and lasting impact in the gaming industry. Valve has been a well-know player in VR industry by investing heavily in the VR space, creating their own VR headset the index and at the same time collaborating with Hp and HTC on their respective headsets. Valve also developed VR games including: The Lab, Aperture, Half-Life: Alyx, etc. (Vionix , 2023).
2. Oculus Studios: Is a division of Oculus a subsidiary of Meta (Facebook) and focuses on developing reality games, applications, and experiences for the Oculus Rift and Oculus Quest headsets (Vionix , 2023). Studio is responsible for developing games such as Jurassic World Aftermath, Lone Echoe 2, Marvel Powers United VR (Giant Bomb, n.d.). The Studio helps other developers and companies to bring their titles on Meta/Oculus platform.
3. Cloudhead Games: Is a Canadian based developer located in Vancouver, founded in 2012. Cloudhead Games has established a reputation for its focus on narrative-driven VR experiences that are both engaging and immersive (Vionix , 2023). The Gallery and Pistol Whip are one of many notable games that the company have develop. They use the unity engine for developing their games.
4. ILMxLAB: Is studio founded in 2015 by the biggest visual companies in the business, Industrial Light & Magic (ILM). The studio is dedicated to creating visual stunning, immersive game with their famous Ip’s, Star Wars, Marvel and more, using the Unreal engine that allows them to create highly realistic environments and characters (Vionix , 2023). Vader Immortal: A Star Wars VR Series and Tales from the Galaxy’s Edge are most notable and successful titles from the studio.
5. Polyarc: Is a Seattle-based game development studio founded in 2015 by a team comprised of industry veterans who work on icon titles like Halo, Destiny, and Red Dead Redemption (Vionix , 2023). Polyarc creates groundbreaking player experiences (Polyarc, n.d.)and their main goal for VR is push the boundaries of what is possible in VR. By creating immersive and unique gameplay and story, using the least in cutting-edge technology. Moss was their debut VR title in 2018 and put the studio on the map, winning multiple rewards since its release (Vionix , 2023).
6. Survios: Another leading company that has been in the forefront in VR gaming development since the early days of VR gaming space back in 2013 (Vionix , 2023). Known for creating highly immersive and acclaimed games like Creed: Rise to Glory, The Walking Dead Onslaught, and many more. Have brought many awards to the studio’s doorstep and in 2020, they hit one million units sold, you can find their titles on 1 out 8 VR devices (Survious, 2022).
7. Archiact: Another VR development company based in Vancouver, Canada. Archiact has quickly made a name in the industry by creating high-quality, immersive games and experiences. The company is known for Evasion, Waddle Home, Doom 3: VR Edition (Archiact, n.d.) and have games cover a wide range of genres, from action-packed shooters to puzzle games and escape rooms (Vionix , 2023).
8. Schell Games: Founded in 2002, has made a name for themselves by creating games with a strong focus on user experience. Their games are designed to be intuitive and engaging, with a focus on delivering an immersive experience for players. Among Us VR (Valve, n.d.), I expected You to Die are the most popular VR games by Schell Games. They have experience working with different headsets including Oculus Rift, HTC Vive, and PlayStation VR (Vionix , 2023).
9. Read at Dawn: Founded in 2003 and company has developed various games on various platforms such as PlayStation, Xbox, and Oculus. Their VR department have produced the critically acclaimed title Lone Echo and its sequel Lone Echo two and was developed exclusively for Oculus Rift headsets. They use the unreal engine and motion capture as well as the latest technology to create their games (Vionix , 2023).
10. Fast Travel Games: Swedish VR game development company founded in 2016 with a mission to create unique VR experiences. They're committed to using cutting-edge VR technology and offer VR gaming development services for businesses interested in incorporating VR into their products or services. Their Popular titles are Apex Construct, Vampire: The Masquerade – Justice and Ghost Signal: A Stellaris Game.

**Popular VR Gaming Genre/ Games:**

In the VR gaming landscape, various genres cater to the diverse preferences of players. Among the most popular gaming genres, simulation, action/adventure, horror, and rhythm games like Beat Saber stand out (Braintekh, 2023). While each genre has its own appeal, the simulation genre has gained a substantial following. From my experience, many players lean more toward the simulation genre.

More users would lean towards the simulator genre of gamers because they offer a more authentic and immersive experience. With a VR headset, it provides another layer of immersion. For example, suppose you are playing Microsoft flight simulators on your PC with a VR headset. In that case, you feel like you're in the airplane's cockpit, not in your room, and little details like turning around your head to see your surrounding environment sells the experience.

At the bottom, I have a chart showing the most popular VR games the user are playing. These statistics provide a screenshot of current players active, 24-peaks and all-time peaks of the most popular VR titles on Steam. Show the level of engagement and popularity of each title.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| # | Name | Current | 24h Peak | All-Time Peak |
| 1. | War Thunder | 75,136 | 79,313 | 113,250 |
| 2. | Phasmophobia | 22,825 | 30,453 | 112,717 |
| 3. | VRChat | 18,294 | 23,922 | 46,814 |
| 4. | No Man’s Sky | 15,233 | 17,083 | 212,613 |
| 5. | Soundpad | 13,804 | 15,162 | 21,920 |
| 6. | Assetto Corsa | 11,504 | 13,186 | 17,513 |
| 7. | OBS Studio | 8,092 | 9,951 | 11,693 |
| 8. | Microsoft Flight Simulator | 6,445 | 6,920 | 61,829 |
| 9. | F1 23 | 4,798 | 5,952 | 13,302 |
| 10. | Fishing Planet | 3,870 | 4,050 | 6,709 |

\*Be advised that list does change on a daily basis\*

**Consumer Demographics:**

To understand the demographic side of VR, gaining insight into the market’s audience is vital by finding data that includes age, income, gender, and what group of people cannot access VR; here are my key findings.

According to the general user demographics of the virtual reality section of the techpenny website:

* 25 to 34-year-olds account for 23% of VR/AR device users (Williams, 2023). Male owners account for 57% of VR or AR devices, while 43% are female (Williams, 2023).
* The average virtual reality owners usually have higher income levels, and in the United States, 56% of VR users have an annual income of $50,000 or more, while 23% earn over $100,000 per year (Williams, 2023).
* While on the other hand, only 14% of VR users have an income below $30,000 (Williams, 2023). It's important to acknowledge that while the available demographic data provides valuable insights from techpenny, it may not encompass vulnerable communities within the VR user base.

On the other hand, users with lower income or disability are a part of the vulnerable communities of VR in general through varies sources like Scientific website. In 2017, according to the Scientific American website, Alice Wong, a disability activist, found in research conducted in partnership with Lucasfilm’s immersive entertainment studio that people with a variety of disabilities, from blindness to cerebral palsy to autism, enjoy using VR and believe it could be beneficial, but experience major accessibility issues. The inability to customize the experience and the necessity of moving certain parts of the body were two of the biggest issues raised by survey respondents (Phillips, 2020).

The Virtual reality arcade by Virtuosity is an arcade for everyone regardless of gender, race, financial situation, or disability. The arcade is located in the States.

[](https://www.youtube.com/embed/NyuAjlrMMuQ?feature=oembed)

[New Virtual Reality Arcade Offers Opportunities For Disabled From YouTube](https://www.youtube.com/watch?v=NyuAjlrMMuQ)

**Competitive Analysis:**

I am going to compare the top 5 VR headsets that you can currently available to buy.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Headset** | Oculus / Meta Quest 2 | Steam Index | | PlayStation VR2 | | Hp Reverb G2 | | HTC Vive Pro 2 |
| **Price** | $419.99 (bi) | 1,319.00 (bk) | | $749.99 (bk) | | $849.00 (bi) | | $1,849.90 (bk) |
| **Resolution + FPS** | 1832 X 1920 (per eye) + 90 fps | 1440 X 1600 (per eye) +144 fps | | 2000 X 2040 (per eye) + 120 fps | | 2160 X 2160 (per eye) + 90 fps | | 2448 X 2448 (per eye) + 120 fps |
| **Compatible** | meta and steam VR library | Only the steam VR library |  | only with VR2 library not VR1 |  | Only the steam VR library |  | Viveport and Steam VR library |
| **Tethered** | No | Yes | | Yes | | Yes | | Yes |
| **Notes** |  |  | |  | |  | | Viveport is subscription service |
|  |  | |  | |  | | for VR games |

**Legends:**

|  |
| --- |
| (b) base headset  (bc) base headset with controllers  (bk) base headset with kit(controllers and other accessories)  (bi) include headset and everything you need right out of the box  (bb) headset and bundle |

Here is link for more In-depth chart (the headsets I used for this report are highlighted in green in the excel chart): [VR Market Analysis Headset Comparison Rough (Updated)](https://d.docs.live.net/a643b08e44752241/Desktop/Work/VAR%20labs/VR%20Market%20Analysis%20Headset%20Comparison%20Rough%20Update(.xlsx)

Here is the link for the reference for the excel chart and the summary of each headset (the headsets I used for this report are highlighted in green in the word doc): [VR Market Analysis Headset Comparison References (Updated)](https://d.docs.live.net/a643b08e44752241/Desktop/Work/VAR%20labs/VR%20Market%20Analysis%20Headset%20Rough%20Comparison%20References%20(updated).docx)

**Summary of each headset:**

Meta/Quest 2: Is one the best all-around VR headsets on the market because it is one the most accessible you can get for true VR experiences out of the box without spending an exorbitant amount of money. The quest two does not require you to own a PC or console; the user only needs a smartphone with the Quest app installed. Another benefit of the headset is its wireless, unlike its rivals like Sony PSVR2 and Valve Index, which is wired and could be challenging to manage the wires. The headset is back with an incredible backlog of titles, such as Half-life: Alyx, Resident Evil 4 VR, Beat Saber, SUPERHOT VR, and etc. Only drawbacks are poor head strap, requires a Facebook/meta account and you can’t upgrade the ram and storage.

Steam Index: Valve index is valve first successful headset in the VR headspace, one of the best headset on the market. The while other headsets like PSVR2 and Pimax Crytal offer better resolutions than the index, index resolution of 1440x1600 (per eye) and up 144 fps (frames per second) is still great for headset that was released in 2016. Also, its controllers are quite impressive with its immersive figure-tracking and another great feature, it has great quality build in headphones and mic. Index can leverage from the steam VR library and platform. Downside its too expensive and inconvenient wire connection, the index is best overall pc headset.

PlayStation VR2: The sequel to the successful PlayStation VR1, this model has better performance and visuals then it’s predecessor thanks to higher frame rate of up to 120fps (frames per second) and resolution of 2000x2040 (per eye). The VR2 setup is another bigger improvement thanks to one simple wire connecting to the console unlike its predecessor which was mess to set up thanks to multiple wires. Horizon dawn V and gran turismo 7 show it VR2 true capabilities. Lack of killer titles, not backwards, compatible VR1 library and requiring ps5 are some of the flaws of the headset. The PSVR2 is best overall console VR headset of the list.

Hp Reverb G2: HP Reverb G2 is great middle ground between the high-end index and the low-end quest 2 headsets. The headset was developed by HP and Valve, so its compatible with Steam VR library, it has great performance and visuals for its price point. The G2 also share similar built in headphones and mic as the index but its also easier to set up compared to the index. Downsides of the G2 is it lacks figure tracking, motion track and FOV (Field Of Vision) needs to be improved.

Grab one if its on sale, rumor has it the G2 is going to be discontinued. Great pc VR headset for someone who wants to get into pc VR gaming without spending the equivalent of the Index.

HTC Vive Pro 2 is the headset for ultimate VR enthusiasts and professionals with its incredible leading class resolution of 2448 x 2448 (5k per eye) and great 120 fps. HTC Vive pro 2 is compatible not alone with the steam VR library, its compatible with the index controllers and other accessories. While the resolution is great it comes at cost of cooling because of that 5k resolution also it does not help that this headset alone is incredibly expensive at $1,079.00. It’s the most expensive headset of the list, recommend for ultimate VR enthusiast.

**Market Trends:**

* The current trend is to improve the hardware of the headset, such as improving eye-tracking, motion-tracking, visuals, and performance while at the same time making them lighter, which will improve overall comfort (Full Scale , 2023).

* Another trend is to make the headset more accessible to communities with limited access by developing lighter and more comfortable headsets and more accessible software for people with disabilities (Full Scale , 2023).

* Microsoft's SeeingVR, a project from Microsoft Research that aims to make VR more accessible to people with low vision or blindness is an example of a successful VR accessibility initiative (Full Scale , 2023).

* Meta introduced a new accessibility tab in their meta quest with a colour correction, Mono Audio and Audio Balance– to make Meta Quest headsets more customizable for people who are hard of hearing. These features let you customize the audio and volume between the headset's left and right speakers, another example of an accessibility initiative (Meta, 2022).
* Another significant advancement is the development of brain-computer interfaces (BCIs), which allow users to control VR experiences with their thoughts, eliminating the need for a controller. The technology is still in its infancy, but in the coming year, it has the potential to revolutionize the VR industry (Full Scale , 2023).
* Social VR is another emerging trend in the industry, thanks to VRchat. VRchat is The platform that allows users to interact with others with user-created 3D avatars and worlds. VRChat is designed primarily for use with virtual reality headsets (Wikipedia , 2023). This experience makes connecting with people worldwide in new and exciting ways possible.

* These experiences range from casual social spaces to more structured social events like concerts or conferences. As social VR becomes more popular, we can foresee its potential for education, training, and entertainment (Full Scale , 2023).

* Integrating AI and machine learning in games will create more realistic and engaging virtual environments according to full scale and develop advanced haptic feedback and more cross-platform experiences (Full Scale , 2023).

* The volume of VR headsets has increased in the past couple of years, and this trend is expected to continue in the next five years. From 2023 to 2028, the volume will increase by 25.28% (~5.5M units) (Alsop, 2023). Remember the gaming sector is one of the primary drivers of VR industry (Full Scale , 2023).

**Consumer Preferences:**

Users look for these key aspects when considering buying a VR headset. I could not find a survey that provides the data I need, but from what I gathered from websites, user reviews and videos, in their own way, they suggest that users generally look for performance, price, library, comfort, etc:

* Graphics and framerate: high resolution that has realistic and immersive and faster refresh rates will make the VR feel more natural and smoother.

* Library: Great library full of killer titles that will give the user immersive experiences complemented with fantastic gameplay and graphics. A catalogue of titles that show the capabilities of the headset.

* Accessibility and Price: an affordable and lighter headset will help make it more comfortable. These factors alone will help make it more accessible to the users.

Here are some links for more information on the topic on hand:

* [Wirecutter (Website)](https://www.nytimes.com/wirecutter/reviews/best-standalone-vr-headset/)
* [LifeWire (Website)](https://www.lifewire.com/5-things-to-consider-before-buying-a-vr-headset-5271867)
* [Meta Quest 2 Customer reviews from Bestbuy (Website)](https://www.bestbuy.com/site/reviews/meta-quest-2-advanced-all-in-one-virtual-reality-headset-128gb/6473553)
* [Playstation VR2 Customer Reviews From BestBuy (Website)](https://www.bestbuy.com/site/reviews/sony-playstation-vr2-multi/6542114)

The headset has benefits in the education sector:

* It enhances student engagement: Students can experience learning and actively participate in the lesson with Virtual reality (Class VR, n.d.).
* Boost Knowledge Retention: Virtual reality fully immerses students and completely focuses their senses on the teaching topic. When experiencing topics as if they’re reality, students’ brains create clear, detailed mental maps, helping to improve knowledge retention by up to 75% (Class VR, n.d.).
* Improving Student Learning Outcomes: Experiential learning with virtual reality benefits a range of student outcomes. With engaging, individualized experiences like walking with prehistoric dinosaurs or holding a beating human heart, teachers can improve student understanding attainment and even increase test scores by up to 20%! (Class VR, n.d.).

Despite its promise, VR in education faces challenges, including accessibility, content development costs, and technology limitations. However, innovative solutions and ongoing research aim to overcome these challenges. As I mentioned in the market trends, Microsoft and Meta have tried to combat the issues like Microsoft seeing VR project and Meta introducing new updates in their product lineup.

**Market Opportunities and Challenges:**

The virtual reality market is not limited to gaming and entertainment; it is experiencing widespread adoption in various sectors, including healthcare, manufacturing, and more. This diversification is evident in the increasing use of VR technology across countries, including the USA, Canada, China, and beyond.

As technology evolves and becomes more affordable, barriers such as high pricing, motion sickness, and comfort issues are gradually being resolved. This trend is expected to lead to a substantial increase in the global adoption of VR technology.

The broader acceptance of VR in diverse industries and the ongoing efforts to enhance affordability and user comfort suggest a promising future for the VR market, with continued growth and innovation on the horizon.

**Conclusion:**

In conclusion, VR gaming is one of the fastest and most profitable sectors of the VR market, thanks to the advancement of technology, the ever-growing consumer demand, and big companies like Meta, Sony, Valve, and many more. Making massive investments in the sector, creating successful headsets using cutting-edge technology that immerses the user in the environment, completing with excellent graphics, gameplay, and the ever-growing catalogue of titles. The trends toward affordability, comfort, and broader accessibility will continuously drive the industry forward.

I would recommend the valve index model and meta-model line because there is the most successful VR headset, and these headsets are usually brought up when someone talks about the best VR headset. The meta-model is probably the most accessible headsets in the market, not requiring a PC or console, and Index is an excellent headset if you want a much more powerful headset without breaking the bank.

VAR labs have plenty of experience with the Index and Steam by developing their learning simulators.

The one vendor we should focus on is Steam; most VR headsets are compatible with Steam VR, and Steam is one of the most significant online vendors for games and VR and has a huge install base that we cannot ignore.

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